

PUBLIC HEALTH ACT,  
(11 & 12 Vict., Cap. 63.)

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R E P O R T

TO THE

GENERAL BOARD OF HEALTH,

ON A

PRELIMINARY INQUIRY

INTO THE SEWERAGE, DRAINAGE, AND SUPPLY OF  
WATER, AND THE SANITARY CONDITION  
OF THE INHABITANTS

OF THE PARISH OF

B U L K I N G T O N .

BY GEORGE THOMAS CLARK,  
SUPERINTENDING INSPECTOR.



LONDON:

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FOR HER MAJESTY'S STATIONERY OFFICE.

1849.

## NOTIFICATION.

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THE General Board of Health hereby give notice, in terms of section 9th of the Public Health Act, that on or before the 26th November written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on the Sewerage, Drainage, and Supply of Water, and the Sanitary Conditions of the Inhabitants of the Parish of BULKINGTON, or with respect to any amendment to be proposed therein.

By order of the Board,

HENRY AUSTIN, *Secretary.*

*Gwydyr House, Whitehall,  
20th October, 1849.*

# BULKINGTON.



----- Parish Boundary

### Scale.



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# PUBLIC HEALTH ACT (11 and 12 Vict., Cap. 63).

*Report to the General Board of Health, on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Parish of BULKINGTON, in the County of Warwick.* By GEO. T. CLARK, ESQ., Superintending Inspector.

MY LORDS AND GENTLEMEN,

London, 28th July, 1849.

I HAVE the honour to report to you that, in accordance with your instructions, and after notice duly given, I visited, on the 7th of May last, the parish of Bulking' n, in the county of Warwick, and held public sittings there, at the White Lion Inn, on that and the following day, and employed the remainder of those days in the inspection of the parish and in procuring materials for this Report.

2. The inquiry was made upon petition from the parish, numerously signed. I received the active support of the Rev. Wm. G. Parker, vicar, and of several of the principal parishioners. The tithe map was the only survey produced.

3. GENERAL DESCRIPTION.—The village of Bulkington stands upon a moderate eminence, higher than any ground in its immediate neighbourhood. One head of the Anker rises on the north side of the parish, and on the south the Griff brook, also a tributary to the Anker. The parish is placed geologically upon the eastern edge of the coal-field of Warwickshire, 2 miles from Bedworth, where the coal is worked, and 6 miles from Coventry. The adjacent coal is lifted up by a line of intruded sienite or greenstone, a mass of which appears and is largely quarried at Marston, in this parish. The village itself stands upon a thick bed of loamy sand, interspersed with seams of clay. The Trent Valley Railway skirts its western border.

4. Bulkington parish contains 4,600 acres. It is composed of the six hamlets of Bulkington, Ryton, Barnacle, Brameote, Weston, and Marston-Jabet. The parish church is in the first, and the rest are distant from it severally  $\frac{1}{2}$  a mile,  $1\frac{1}{4}$  mile, 2,  $\frac{1}{2}$ , and 2 miles. The people are chiefly single-hand ribbon-weavers, and receive their silk from and deliver their work at Coventry. Bulkington is in the Nuneaton Poor-Law Union.

5. GOVERNMENT AND FINANCE.—The affairs at Bulkington are regulated by the usual parish officers, of whom the two churchwardens and the two overseers are elected for the whole parish. There are no less than 10 surveyors of highways, elected by the several hamlets. One officer of the county police resides in the village.

6. The rates annually levied are poors-rate (which includes the

county-rate), of 3s. in the pound, producing about 1,200*l.* net; church rate, 1½*d.* to 2*d.*; highway rate, levied separately in each hamlet, and varying from 1*d.* in Ryton to 2½*d.* in Bulkington. The assessment upon which the rates are levied was made about 60 years ago, and is thought to be very low indeed, especially upon house property. Bulkington hamlet has incurred a debt of 300*l.*, the interest of which is paid annually out of the rates.

7. POPULATION.—In 1831 Bulkington parish contained 1,792 persons. In 1841 the population was 1,831, of whom 981 resided in Bulkington hamlet, in 214 houses, beside 20 then uninhabited. Ryton, which lies almost contiguous to Bulkington village, contained in 1841 363 persons, dwelling in 87 houses, besides eight uninhabited.

8. MORTALITY.—Bulkington is one of a group of villages in which the mortality is excessive. Mr. Estlin, superintendent registrar, in forwarding “a statistical statement of deaths in this parish for the five years ending at Lady-day last,” observes, “On making a calculation, it appears there has been an annual average of 31 deaths to each thousand of the population according to the census of 1841.” This of course is a little higher than the true mortality, but as the increase of population has not been considerable, it can be but a very little too high. The mean mortality of the whole county in 1841 was 22·7, and that of the registration district of Nuneaton, including 40,341 persons, only 21·7 in the thousand.

9. Having heard of the prevalence of fever in the village, I applied to the master of the union-house for particulars of the expenses incurred in consequence. I subjoin his statement:—

“Nuneaton Union Workhouse,  
May 12, 1849.

“SIR,

“HEARING that you wished to know as nearly as possible the amount of expenses which have taken place in the parish of Bulkington from the commencement of the fever in January, 1847, I have abstracted from the relieving officer’s relief lists and the medical officer’s book the following.

“I have selected the able-bodied cases only that did not apply for relief until some part of their family was afflicted with the typhus fever; the expenses are as follows:—

	£.	s.	d.
“Quarter ending March 20, 1847	24	2	7½
“          ”          June 19, 1847	35	12	11½
“          ”          Sept. 18, 1847	14	7	7
“          ”          Dec. 19, 1847	10	15	4½
“          ”          March 19, 1848	16	11	9½
Half-year ending Sept. 23, 1848	46	7	11
“          ”          March 24, 1849	51	8	1½
	£199	6	4½

“I have, &c.,

“SAMUEL BEACHER, *Workhouse Master.*”

“Mr. Thomas Orton, guardian of the poor, calculates the sickness as costing, in out-of-door relief, about 100*l.* per annum.”

10. INSPECTION OF THE VILLAGE.—The petition states, “that the parish of Bulkington has for a long time past been afflicted with typhus and other epidemic, endemic, and contagious diseases, which in the opinion of your petitioners have been and are engendered and continued by the total want of underground drainage, the accumulation of filth and refuse of every description, and the neglect of every proper and necessary sanitary arrangement.”

11. Also, the clerk of the Board of Guardians states,—

“That in the villages of Bulkington and Ryton, in the parish of Bulkington, there have been several cases of epidemic, endemic, and contagious fever arising from the filthy and unwholesome state of those places; but I am unable to point out any particular locality therein, except that the medical officer of that district informs me that fever occurred in many parts of the before-named villages, and that it has of late considerably abated.”

During this part of the inquiry I was accompanied by the Vicar; by Mr. Nason, surgeon to the union; and by Charles Banbury, the resident officer of police, whom I found to be acquainted with every nuisance in the place, and who afforded me valuable assistance.

12. Bulkington village is built upon the roads leading to Ryton—which almost adjoins it,—to Shilton, to Barnacle, and to Coventry. Along each street are two, and sometimes three, open gutters, which receive the slops thrown out from each house, the overflow of the farm-yards, and in wet weather, that of the privies and cesspools behind the houses. Many of these gutters are fed through tile-drains, by which the house refuse is led from the back premises, beneath the floor of the house. These street-gutters terminate in each direction in large roadside ditches, on the margin of the town, the smell of which, in the public road, is very offensive, especially in warm weather.

13. Most of the houses are built upon the main streets, some however are arranged in courts, communicating by uncovered entrances with the streets.

14. *Barnacle-road*.—Here, at Mrs. Rowley’s, the house was very neat and clean within, but an adjacent privy was built against the pantry wall, and being in a bad state, the matter oozes through the wall, producing a very disgusting nuisance. At Mrs. Butlin’s there is no privy at all, but behind the adjacent houses are several very filthy privies, discharging into open pits. The pump-water here is very hard. John Smith, in this road, complains of a privy and open cesspool within four yards of his house, and especially offensive in hot and wet weather. Fever was recently present in the next house.

15. In *Blacksmiths’-yard*, seven or eight houses use one privy,

which, at my visit, was in a filthy state with an open pit. The pump had been dry for seven years, and the people have occasionally to pay 1*d.* and 2*d.* a-week for soft water. There is a large open ash-pit, the dust from which is blown by the wind into the houses. The court is badly paved. The rents here vary from 1*s.* to 1*s.* 6*d.* a-week. At *Mr. Cox's houses*, the house filth is all thrown into the road. There is a large foul ash-pit which receives the night-soil. Towards the town end, the gutters fall into a deep, broad, and very offensive side ditch, which has no regular outlet. It extends along the road with occasional muck-heaps upon its edge. Here is the soft-water well; a mere cavity, partly beneath a coal-shed, not lined or kept clean, and in a very dirty state.

16. *Franklin's-yard* has a privy, discharging into an ash-pit, the contents of which are much blown about by the wind. There is a foul open gutter here, and a pigsty.

17. The *Coventry-road*, though a turnpike, is in as bad a condition as the rest. The gutters are open and charged with offensive matter, and terminate in large open ditches by the road side. A southing tile-drain leads from a back yard beneath the old Chequers' Inn, and is much complained of. These houses have no privies.

18. At *Mr. Thomas's buildings*, where the policeman resides, are seven houses to one privy. This place was kept as clean as circumstances would admit of, but the cesspool was very offensive, and much complained of, as affecting the houses. *Watkin's yard* is unpaved, rather crowded, and has a bad privy and open pit, the oozing from which extends into a dwelling-room and a pantry. A narrow line of stagnant drain extends along the back of the house, and there is a slaughter-house attached: a fatal case of fever occurred here recently.

19. *Mr. Dewis* has an open and very foul farm-yard, the drainage from which runs down a side ditch at the bottom of the town. There is also a foul drain from *W. Taylor's* farm-yard, which runs beneath a number of houses, in which several cases of typhus-fever have occurred, and one proving fatal. Near this is a second soft-water well, much used. This, however, is a mere muddy pit in which, when I saw it, a litter of puppies had been recently drowned, and the banks were trodden down by cattle. There is another of these wells on the *Bedworth-road*, in even a still dirtier state. The water of this well is much used as a remedy for sore eyes. The gutters in this quarter of the village, in wet weather, overflow the road, and at one point, where the road is steep, produce in frosty weather a very dangerous nuisance.

20. *Church-street* is in a very dirty state. In one house the pantry is drained into from the privy, and a public ash-pit by the road-side is, in windy weather, a very serious evil. *Mrs.*



Warner complained of a very offensive privy in her garden, and near Mrs. Skelsey is Nelson-yard, also much complained of, containing a pit for stable manure. This is a wide-spreading nuisance in its effects. Opposite the post-office, William Burton complained of an open privy and foul ditches, running along beneath the eaves of his house. Mr. Martin has a large and very foul farm-yard, discharging into the street-gutter. Near this is a dangerous sewer-hole.

21. At the sand-pit is a large pond, about five feet deep, but shallow at the edges. Though never absolutely dry, it is often low, and its banks in that state are offensive, and are considered by the medical men to have produced fatal fever in the houses skirting its margin. Benjamin Rowley complained much of its effects; near it is a large open cesspool, half full of a most offensive fluid. It is used by six families.

22. The hamlet of *Ryton* almost joins Bulkington. Here are the same description of nuisances, and the same prevalent fever. I may mention Mr. Starkey's farm-yard as one sheet of fluid manure, with fever in the adjacent houses. The town end in this direction is also very filthy.

23. At my request the officer of police numbered all the privies in Bulkington and Ryton. It appears from his return that there are in Bulkington 234 houses and 62 privies, and in Ryton 106 houses and 30 privies, and of these there were found to be, clean, 51; filthy, 25; very filthy, 16: total 92. These privies are also very unequally divided. Thus only 20 houses have a privy to each. Several are without privies at all, and the inhabitants seek the fields and roadside. It is difficult to conceive a more filthy state of things than that which is to be found in these villages.

24. SEWERS AND DRAINS.—These may be very briefly disposed of. There is one covered drain about 150 yards long, which appears to be the only covered drain in the place. A few of the courts have common agricultural tile drains laid down, but these are not calculated to retain offensive matter, and the exudation and smell from them is very considerable. They are all laid with open joints.

25. WATER SUPPLY.—Bulkington is very badly supplied with water, especially with soft water, being dependent upon rain collected in tubs, and upon two wells, the water of which is reputed soft, and proved by analysis to be of  $5\cdot9^{\circ}$  of hardness. The ordinary pump water is hard. The vicar's well, one of the best in the village, contains water of  $30^{\circ}$  of hardness. The water of the sand-pit pond, much in request, was  $7\cdot5^{\circ}$ .

26. The people occasionally purchase soft water, paying 1*d.* to  $1\frac{1}{2}$ *d.* a-week. There are in Bulkington and Ryton open wells, 12; of pumps, 53. The water-springs, though hard, are tolerably copious. The cost of keeping a pump in efficient

repair is about 5s. a-year. This would establish a present expenditure of about 20*l.* per annum in pump repairs, and probably an equal sum in the purchase of water.

27. HIGHWAYS.—The roads are for the most part in bad order. In Bramcote Hamlet the roads some years ago were put in substantial repair, and since that time no rate has been levied.

28. The Marston-Jabet Quarries (of syenite or greenstone) lie in this parish, but this stone is chiefly in repute for the small square blocks used in paving footways. The Tuttle Hill stone is chiefly used for roads. The Bulkington surveyors state that it costs, broken and delivered at the road side, 5s. a-ton.

29. SUBURBAN LANDS.—As the town stands high, the fields about it are not absolutely marshy. They are, however, damp, and present every indication of a defective under-drainage. The rent of land in this parish is about 30s. an acre. There is no common land.

30. BURIAL-GROUND.—The churchyard is full. Its condition was pointed out to me by the vicar, and without doubt it is desirable that a new plot of ground should be provided without delay.

### REMEDIES.

31. The circumstances of Bulkington render the economical application of the requisite remedies a matter of very great difficulty indeed. The village stands high: it is small, and the inhabitants are very poor. A water supply is essential, but this cannot be given by natural pressure, and the expense of forming a reservoir, and lifting water by machinery, will be considerable.

32. WATER SUPPLY.—It is one of the disadvantages of a mere preliminary investigation, undertaken without regular surveys or sections, that it becomes necessary, in doubtful cases, to mention all the plans which may be feasible. In the present case I have to point out two. There is a small brook about half a mile north of Bulkington church, and a quarter of a mile from Ryton, which, even in the driest seasons, contains a tolerable flow of water, and upon which a reservoir might be formed, containing a two months' supply, at a point about 40 or 50 feet below the summit level of Bulkington. Here a small steam-engine might be set up, and the water lifted into a service-tank, and thence by pipes distributed over the village. This, including reservoir, engine, pumps, engine-house, service-tank, pipes, and house-service for 340 houses, might perhaps, by very close economy, be all completed for 2,500*l.*, and might be worked and maintained for 100*l.* per annum, coals being here very cheap. This is equivalent to an expenditure of about 4,200*l.* which, divided among 340 houses, would be equal to a payment of a little above 12*l.* 7s. a-house, answering, if borrowed and distributed over 30 years, to a payment of about 3½*d.* a-week., for water only.

33. The second plan is far less satisfactory, but also far less expensive. Under this plan it would be necessary to sink a large well near the sand-pit pond, which should be cleansed, so that the pond-water passing through the sand would be filtered: connected with this well, pumps and horse gearing should be set up, and a service-tank, containing a two days' supply. From the tank a main-pipe should be laid through the village, giving off branches to the several houses. The expense of this arrangement, including an allowance for its working charges, including a horse, would be about equal to an outlay of 3,400*l.*, or 10*l.* a-house, corresponding to a weekly charge of 2½*d.* over 30 years. It is not improbable that the results of a proper survey may show this latter plan to be within reach of a lower sum.

34. SEWERAGE.—The only sewers required will be stone-ware tubes, none of which should be above 12 inches diameter. These would be laid at the backs of the houses, so as to receive the drainage of the kitchens, the waste of the pumps, the rain-water from the roofs, and the overflow or flushing water from the sand-pit pond. These drains will terminate in tanks or pits outside the village, the contents of which may be disposed of for agricultural purposes. The cost of the sewerage arrangements, including house-drainage and proper privies, would be about 4*l.* a-house, or 1,360*l.*, equal to a weekly payment of 1*d.* upon each house.

35. Besides these arrangements, every pair or every group of cottages should be provided with a properly-constructed dust-bin, into which the ashes and dry refuse of the houses will be thrown, and the bin or bucket of which should be removed and emptied at stated times by the contractor.

36. Each court will require to be repaved. The block-brick paving is much in use and is very durable, but probably for ordinary purposes gas asphalt and ashes would be sufficient, and could be laid down at a much cheaper rate. These remedies are included in the general estimate.

37. The main roads should be put into thorough repair: once well formed, a very small annual sum would maintain them. By placing the whole of the roads (exclusive of the turnpike) under one professional officer instead of ten farmers, a considerable economy and efficiency might be expected to be gained.

38. COMBINATION.—To carry out these measures with economy and success, to ensure a responsible contractor, surveyor or inspector, an accountant or clerk, and a good local board, it is absolutely necessary that a certain number of adjacent parishes should be combined, of course for these purposes only.

39. The Poor Law Union in which Bulkington is placed includes also Coton, Nuneaton, Arley, Astley, Weddington, and Caldecott, seven parishes in all. This number, for the purposes

of the Public Health Act, might advantageously be extended to about double, by which means a share of the services of a proper surveyor, contractor, and clerk might be secured very cheaply to each parish. Of course the Local Board and its Union should be kept perfectly distinct from that for the administration of the Poor Law. The functions of the two bodies are wholly dissimilar, and the former, here at least, is already overpowered with business. Under the combination proposed, each parish would of course bear the burden of its own works, those only of the general establishment being shared by the whole.

40. **CHARGES.**—The expenses to be incurred will depend upon which of the plans already mentioned be finally adopted, and until the surveys and sections are completed and the Local Board formed, it will not be practicable to ascertain, with any precision, the actual expense of each. If steam-power be employed, the cost of water-supply, sewerage, and house-service, privies, &c. will be about 16*l.* 7*s.* a-house, or 4½*d.* a-week upon each house for 30 years:—a large sum. If horse-power be employed, and a well sunk, the expense of all will be about 14*l.* a-house, or 3½*d.* a-week.

41. **BOUNDARIES.**—The boundary to which the Act should be applied, and which is that of the parish, is shown on the annexed map.

42. **LOCAL BOARD.**—As the parish cannot be combined with others, save under a provisional order, confirmed by the Legislature, the Local Board should at present, to save time, be formed from this parish; probably before the works are actually commenced, the meeting of Parliament will give an opportunity for carrying into effect the combination which is so essential to the economy and efficiency of their construction.

43. **SUMMARY.**—I have to report,—

1. That the mortality of the parish of Bulkington is excessive, being, according to the method of computation directed by the Public Health Act, 31 in the thousand annually.

2. That in the opinion of the Union surgeon this excessive mortality and the sickness which it indicates, are directly attributable to the dirty and undrained condition of the place, the want of a sufficient number of privies, and of a sufficient supply of water; and that as to the deficiency of Bulkington on these points, I satisfied myself by inspection.

3. That the requisite remedies, that is to say, clean and proper privies, an efficient court, street, and house-drainage, and a greatly improved water-supply, may be obtained according to the plan adopted, at a weekly payment

on account of each house from  $4\frac{1}{2}d.$  to  $3\frac{1}{2}d.$  during 30 years; of which payment about two parts will be defrayed by general rates and one part by the owner of house property.

4. That the expenditure due to out-of door relief, directly caused by sickness, amounts to about 100*l.* per annum, a part of which sum, together with about 40*l.* or 50*l.* expended in repairs of pumps and purchase of water, would be saved to the community by the proposed arrangements.

5. That the churchyard is very full, and a fresh plot of ground for the purposes of burial should at once be provided.

6. That the present system of the management of the highways in this parish, by 10 unprofessional surveyors, forming six independent bodies, is an expensive and inefficient system, and that under the control of the Local Board, better roads may be expected for less money.

7. That to secure an efficient Local Board, and the services of properly qualified servants, it is essential that this and the adjacent parishes should be combined in Union for the purposes of this Act.

8. That at this time about 40*l.* to 50*l.* per annum is realized by the sale of the village soil or refuse, as manure, which sum, if the whole were collected and disposed of by one contractor, would probably be considerably augmented, and would tend to diminish the rates.

44. Under these circumstances I RECOMMEND--

1. That the Public Health Act be applied to the whole parish of Bulkington.

2. That the Local Board of Health to be elected under the said Public Health Act, 1848, shall consist of nine persons, and that the entire number shall be elected for the whole of the said parish.

3. That one-third in number of the said Local Board shall go out of office on the twenty-fifth of March in each year subsequently to that in which the said election takes place.

4. That every person shall, at the time of his election as a member of the said Local Board, and so long as he shall continue in office by virtue of such election, be resident as in the said Public Health Act, 1848, is required, and be seized and possessed of real or personal estate, or both, to the value or amount of not less than five hundred pounds, or shall be resident and rated to the relief of the poor of some parish, township, or place of which some part is within the said district, upon an annual value of not less than twenty pounds.

5. That so soon as a provisional order can be prepared, and sanctioned by the Legislature, Bulkington be com-

bined with the petitioning parishes of Nuneaton and Chilvers-Coton, for the purposes of the Public Health Act, and do contribute three members to the joint Local Board.

6. That such of the adjacent parishes as shall petition be also admitted to the advantages of this Union.

45. In concluding this Report, I have to apologize to the Board for the delay in its preparation, which has been occasioned by the peculiar difficulties of the case—the village being very small, poor, and suffering under many disadvantages as regards water supply, circumstances which call for peculiar circumspection in the choice of remedies to be recommended or applied.

I have the honour to be,  
My Lords and Gentlemen,  
Your obedient servant,

GEO. T. CLARK.

*To the General Board of Health,  
&c. &c. &c.*